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An
Inaugural Essay
on
Dropsy
Submitted to the examination
of the
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By John P. Morison, Rejected March 13th 1823
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It is my intention to present, in the succeeding pages, a few observations, upon the Pathology and Treatment of general Dropsy.

Those serous or watery accumulations, which preternaturally occur in the cavities and cellular membrane of the body, have by Nosologists been generally denominated Dropsy. These may take place, without distinction, in persons of any age and of either sex; women however and those advanced in life are said to be most subject to it.

They generally appear as a secondary affection; the remote cause is therefore to be looked for in the previous state of the system, and may be traced to many different origins; frequently, they occur as a consequence of some disorder of the constitution, or obstructions of some of the Thoracic or Abdominal viscera.

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The Pathology of the disease, seems not to have been entirely settled by Physicians, but it appears to be universally acknowledged, that Dropsy depends upon a distruction of balance between the Exhaling and Absorbing vessels.

For certain purposes in the Animal Œconomy, a fluid is supposed by Physiologists to be secreted by the Exhaling vessels into every interstice and cavity of the body, which is prevented from accumulating, in consequence of being taken up (in the healthy state) by a system of vessels, called Absorbents or Lymphatics.

In what this distruction of balance consists, has constituted the subject of controversy. Dr. Denman supposed it to be owing to a paralysis of the Lymphatics, the cause of local accumulations he accounts for as being a partial paralysis of these vessels. Dr. Cullen supposed that it depended on debility, and imagined a peculiar state of the system connected with it, which he denominated a "Hydropic diathesis" or "laxity of the Exhalents".

The European Physicians generally, supposed, Dropsy had its foundation in a debilitated state of the system.

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Entirely an opposite opinion has of late been entertained by Dr Rush, who referred it to a "morbid excitement in the arteries" with a "phlogistic diathesis".

Thus upon two opposite extremes have physicians endeavoured to account for this derangement of equability in the two sets of vessels.

The Exhalents too, have by Pathologists been considered as but passive continuations of the large arteries, and controlled in their operation by them entirely. Considering them thus, our means of accounting for the various diseased conditions that may occur in them, must be confined to a narrow compass, and be very imperfect. Indeed I cannot conceive, under these circumstances, how the phenomena of their diseased action can at all be satisfactorily explained. Viewing them however as a separate system of vessels, we have a wider field for enquiry; and we will at the same time admit, that by arterial influence, they are as much modified in their action as by any other part or parts of the body.

The human system is intimately connected, one part being dependant on another, so that they cannot be affected,

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-thy, and is the connecting link in the chain which binds
together the animal fabric.

Pathologists of the present day, endeavour to avoid both shoals
of the conflicting doctrines formerly advanced, by steering between
them, and they have supposed Dropsy to depend upon a chang-
-ed state of the vessels, or an error loci in the action of the Arteries
analogous to Hemorhage.

It seems to be a law of the animal Oeconomy, that febrile ac-
-tion (if not arrested) will continue, until its excess is exhausted,
when it gradually changes into the contrary extreme of debility
and feeble action; precisely in this way may the vessels in Dropsy
be supposed to act, both the Exhalents and Absorbents, running into
a state of debility, forming that condition of Chronic Dropsy, de-
-nominated by Dr. Rush the "Atonic".

The disease may therefore be immediately caused, in the first
instance, in consequence of the reacting power of the system, being
excited into action by stimuli, of whatever kind applied, whether
from Fever or local congestion affecting the general system, causing
that kind of Dropsy denominated by Dr. Rush the "tonic"; or, by

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the application of so great a quantity of stimuli as to overcome this power of reaction, producing a weakened state, constituting the "atonic".

If however, by the terms "tonic" and "atonic" (which by the way, are words of rather an indefinite character here), Dr. Rush means that Dropsies occur always either with excessive action, or on the contrary very diminished action of the arteries, we are disposed to doubt very much the position. As observed before, practitioners look it to be a changed state of the vessels, the arteries acting in error of place, and we can conceive that this change might either be of a high low or intermediate degree of action.

This view of the Pathology of Dropsy may account for its occurring under all the variety of circumstances, and points out the mode of treatment which has been most successfull; though it must be confessed, there are great difficulties attending it.

These collections have been divided by Nosologists, into different species according to the seat of the disease; but this is of no great practical utility, the general principles of treatment being the same.

The disease may be partial, and affect the Thorax, Abdomen,

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lower extremities &c, in general, and pervade every part at the same time. It generally makes its first appearance in the lower extremities, thence advancing upwards into the Abdomen cellular texture and Thorax, producing universal Dropsy, and interfering with the internal viscera, interrupting their functions. The most evident symptoms which appear are great distention of the Abdomen and cellular texture, a sense of weight is felt in the part, and the fluctuation of the water is perceived by striking the Abdomen with the finger; when it advances to the Thorax, very distressing symptoms are produced, as great difficulty of breathing, with a sense of suffocation and cough when lying down, so that the patient cannot remain in a recumbent posture — perhaps the most conclusive symptom of Anasarca may be the doughy pitting under the finger; the pulse is generally hard slow and intermitting, particularly in Hydrothorax. With regard to the urine I may remark, that in almost every case of incipient Dropsy, there is a diminution of its natural quantity discharged, thereby forming one of the most unequivocal symptoms of the existence of the disease. By Dr. Blackall its qualities have been much attended to

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and he has distinguished its peculiarities, as its coagulating by heat and Nitrous acid, and from his experiments infers, that this takes place in those cases attended with arterial excitement; if this be the fact, it may serve as a confirmation of the state of the pulse.

Treatment.

Dropsy in general therefore consists in a deviation from the healthy arrangement between the Exhalent and Absorbent vessels, thereby causing an accumulation of fluid in the body; the grand indication then towards the cure, is to restore the equilibrium which should exist between them.

By, Firstly, Reducing arterial excitement which generally is present by copious venesection, cooling Cathartics, Digitalis &c.

Secondly, Stimulating the Absorbents by the use of Calomel Squill, Foxglove &c.

Thirdly, Giving strength and tone to the Exhalent, and Absorbent vessels, and system in general, by the use of tonic and stimulating remedies, such as Gentian or Columbo, Cantharides or Gin &c, and

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Lastly, Evacuating the water, by the judicious application of the remedies mentioned.

It is not my intention however, to enter particularly into the relative merits of the whole of these remedies, even were I qualified for the undertaking; I consider it sufficient for my present purpose to make a few general remarks on the application of a few of the most indispensable that are at present used towards the cure: and first, of,

Blood-letting. It will not be necessary I presume to trace back the time at which it was first employed by the older physicians, it is sufficient to remark, that it has constituted a subject of no small controversy among physicians, as to its employment in this disease. By the universal experience however of those of the present day, its utility has been sufficiently proved, to establish it as one of the principal curatives — it seems indeed to have a specific effect, in changing the morbid condition of the vessels, and thereby "overcomes the disease". As to the manner in which remedies act in removing this morbid state of the system we are not acquainted, but as to the power of blood letting in reducing this condition of the arteries, we have

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Notwithstanding the great advantages ascribed to blood-letting, it will not alone in all cases reduce the irritability of the arteries, unless by so much weakening the system in general as to make its further employment dangerous: it should therefore be assisted by **Cathartics**; of these some practitioners employ the lenients, others the drastic, — where there is torpor of the bowels, the latter or those called Hydragogues should be preferred. A combination of Cream of Tartar and Jallap, in the proportions of one drachm of the former to ten or fifteen grains of the latter; this thus recommended by Dr Chapman, with great confidence.

By Dr. Sydenham and other writers, **Emetics** have been extolled as causing the rapid removal of the fluid; in speaking of the Crocus Metallorum (which has now however become an obsolete remedy) Dr. S. remarks that "whichever passages there" "are through which the water passes from the cavity of the" "belly into the intestines, I am sure that the above mentioned" "Emetic does powerfully evacuate it both upwards and down=" "=wards. For after the second or third puke, the water does"

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"not seem to be forced out, so much by the secretory action of"
"the medicine as to run with a full current, the obstructions"
"being in a manner broken down and the sluices opened,"
"as manifestly appears by the frequent impetuous evacua="
"=tion of the urates." From the known influence which the stomach possesses over the action of the Absorbent vessels, we might readily suppose them of service, particularly if this itself disordered.

In reducing the action of the pulse, as well as to increase absorption and diuresis, Foxglove has been highly extolled, particularly by Dr. Withering; practitioners however since have not thought so favorably of it — running the course of every new specific, after having been reputed far above its merits has now fallen down to its just rank. In general practice it is given alone in the form of the dried leaves in powder, the dose about one grain, or rather in doses of half a grain in combination with Nitre Squill &c. By giving it in small doses it is thus left to accumulate in the system, (as this said) until its effects are apparent, which sometimes suddenly happens in a few days. The patients are however, after the evacuation

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of the water, very much weakened and tonics might then follow. May it not possibly be owing to the suddenness by which the fluid is discharged, thereby obstructing the support, in some measure, that it assists in weakening patients so much? It of course must be allowed to produce weakness by its peculiarity of action on the Nervous system. Dr. Withering says, it seldom succeeds in men of "great natural strength, tense fibre, "warm skin" + or in those of a "tight and cheerly pulse" but "on the contrary if the pulse be feeble and intermitting, the" "countenance pale, lips livid, skin cold, the swollen belly" "soft and fluctuating, or cancerous limbs readily pitting" "under the finger, we may expect the diuretic effects to follow" "in a kindly manner". On the contrary Dr. Rush observes "I can ascribe but one complete cure to its use which was in" "the year 1789, in a young man in the Pennsylvania Hospital" "of five and thirty years of age, of a robust habit and plethoric" "pulse". Dr. Darwin says it is best suited to those cases brought on by intemperance, which Dr. Chapmans corroborates from his own experience. From its power in reducing the action of the blood-vessels one would suppose it best suited to cases mentioned

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by Dr. Rush. Given as I have seen it in combination with the articles stated above, it has (with the exception of those cases which were chronic and in old people), cured the disease.

Having already gone beyond the limits I anticipated, I shall only mention a few other remedies that are employed in the cure of this disease, in as brief a manner as possible, for which I beg indulgence.

Of the diuretic remedies is the Squill; this is much used at present, its properties both as an Expectorant and diuretic, would seem to recommend it in Hydrothorax, and it is allowed to be usefull in other forms of Dropsy, being an article much depended upon.

With regard to Cantharides, it might be said, that, judging from their stimulating power, they might perhaps be better suited to those cases where the habit is depressed, torpid, or in a state of laxity, having as it is said, a tendency to excite the absorbent vessels. Their action however upon the Kidneys is said to be violent, and

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this objection should be kept in view in the administration.

After the morbid action of the Arteries has been reduced, the several articles of Gentian or Columbo &c, are administered with a view to give strength and tone to the Absorbents, and thus restore that equilibrium which is necessary to health.

Fever, Labour, low diet, Thirst and Fasting are remedies recorded as having themselves cured the disease; the judgement of the practitioner must be exerted in the selection of these.

If it were necessary, we might add a vast number of other remedies, dispersed through the Materia Medica, and which should I endeavour to enumerate them, might constitute a Materia Medica for the cure of Dropsy, as there is scarce a Medicine that at one time or other has not been employed in this disease, the greater part of which might be set down as either useless or inert.

The local means that have been employed to evacuate the water are, firstly Punctures. These are frequently of service when the body and limbs are very much swelled and distended; they are said however to prove troublesome from the excoriation which

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Secondly, Paracentesis is an operation sometimes performed to relieve the Thorax or Abdominal cavities; it is now nearly abandoned with regard to the Thorax, the precise seat of the accumulation not being easily ascertained.

As local remedies also which have proved beneficial are, Blisters. It is objected to them however, that they are apt to produce gangrene and mortification in the feet; perhaps if the circulation is very slow and languid, they may have that effect, but I believe it is seldom to be apprehended.

Frictions and Pressure are of advantage in the morenings, the legs being rubbed upwards, and a roller of Flannel applied.

I have thus concluded a short Essay upon general Dropsy. The obligation I am under to fulfil a law of the University I offer as an apology for the imperfections of the performance.
